AMENDMENTS TO THE CLAIMS:

1. (Currently amended) A computer implemented method for an auction comprising:

establishing an auction system which is accessible via a network, and performs an auction for a plurality ~~set~~ of items including an item and an other ~~another~~ item which is different than said item; ~~, and comprises a processor which generates~~

generating by using a processor, a web page including a user interface for entering a bid in said auction, said user interface displaying an area for entering a bid for said item and said other item, an area for entering a condition associated with a set of items including said item and said other item, and an area for editing said condition;

receiving a bid for said item and a condition associated with ~~on winning~~ said set of items ~~item~~ which are entered by a bidder by using said user interface;

displaying on said user interface a bid table for indicating that said bid is one of a selected bid and an unselected bid during a course of said auction;

formulating a winner determination problem including said condition associated with ~~on winning~~ said set of items ~~item~~ as an integer program, and solving said integer program to determine whether said bid is a selected bid;

receiving an edit to said condition which is entered by said bidder by using said user interface, and updating said bid table displayed on the user interface to indicate that said bid is one of a selected bid and an unselected bid based on said edited condition; and

upon terminating said auction, updating said bid table displayed on the user interface to indicate that said bid is one of a winning bid and a non-winning bid.

2. (Previously Presented) A method according to claim 1, wherein the auction system is selected from a group consisting of an open cry auction, an ascending bid auction, and a descending bid auction.

3. (Currently amended) A method according to claim 1, wherein the condition ~~on winning~~ comprises a plurality of conditions which characterize combinations of bids from the bidder for desired items within the auction system.

4. (Currently amended) A method according to claim 1, wherein said condition comprises a budget condition, and

wherein said method further comprises ~~comprising~~:

enabling the auction system such that it is responsive to said budget condition.

5. (Previously presented) A method according to claim 4, wherein the budget condition is specified by the bidder.

6. (Currently amended) A method according to claim 1, wherein said condition associated with ~~on winning~~ said set of items ~~item~~ is selected from the group consisting of a maximum quantity condition, a minimum quantity condition, a precedence condition, and a general linear condition.

7. (Previously presented) A method according to claim 1, further comprising:

enabling the auction system so that it is responsive to seller conditions.

8. (Previously presented) A method according to claim 7, wherein the seller conditions specify a minimum value for a combination of items.

9. (Previously presented) A method according to claim 7, wherein the seller conditions specify a minimum value for a combination of a minimum number of items to be sold.

10. (Previously presented) A method according to claim 7, wherein the seller conditions specify a minimum value for a combination of items correlated to a precedence relationship.

11. (Previously presented) A method according to claim 1, wherein said condition comprises a linear condition.

12. (Currently amended) A method according to claim 11, wherein said network comprises the Internet, said user interface being displayed on said ~~a~~ web page on the Internet.

13. (Currently amended) A program medium executable in a computer system for facilitating an auction, the program medium comprising machine-readable instructions to cause the computer system to execute:

establishing an auction system which is accessible via a network, and performs an auction for a plurality ~~set~~ of items including an item and other items which are different than said item; ~~, and comprises a processor which generates~~

generating by using a processor, a web page including a user interface for entering a bid in said auction, said user interface displaying an area for entering a bid for said item and said other items, an area for entering a condition associated with a set of items including said item and said other items, and an area for editing said condition;

receiving a bid for said item and a condition associated with ~~on winning~~ said set of items ~~item~~ said item which are entered by a bidder by using said user interface;

displaying on said user interface a bid table for indicating that said bid is one of a selected bid and an unselected bid during a course of said auction;

formulating a winner determination problem including said condition associated with ~~on winning~~ said set of items ~~item~~ said item as an integer program, and solving said integer program to determine whether said bid is a selected bid;

receiving an edit to said condition which is entered by said bidder by using said user interface, and updating said bid table displayed on the user interface to indicate that said bid is one of a selected bid and an unselected bid based on said edited condition; and

upon terminating said auction, updating said bid table displayed on the user interface to indicate that said bid is one of a winning bid and a non-winning bid.

14. (Currently amended) A computer implemented method for facilitating an auction comprising:

establishing an auction system which is accessible via a network, performs an auction for a plurality ~~set~~ of items including a first item and a second item which is different than said first item; ~~, and comprises a processor which generates~~

generating by using a processor, a web page including a user interface for entering a bid, said user interface displaying an area for entering a bid for said first item and said second item, an area for entering a condition associated with a set of items including said first item and said second item, and an area for editing said condition;

receiving a proposal comprising a bid on said first and second items and a condition associated with ~~on winning~~ said set of ~~first and second~~ items which are entered by a bidder by using said user interface;

displaying on said user interface a bid table for indicating that said proposal is one of a selected proposal and an unselected proposal during a course of said auction;

formulating a winner determination problem including said condition ~~on winning said first and second items~~ as an integer program, and solving said integer program to determine whether said proposal is a selected proposal, and updating the ~~a~~ user interface based on whether said proposal is determined to be a selected proposal;

receiving an edit to said condition which is entered by said bidder by using said user interface, and updating said bid table displayed on the user interface to indicate that said proposal is one of a selected proposal and an unselected proposal based on said edited condition; and

upon terminating said auction, updating said bid table displayed on the user interface to indicate that said proposal is one of a winning proposal and a non-winning proposal.

15. (Previously presented) A method according to claim 1, wherein said integer program is expressed by the following, subject to coditions specified by bidders in said auction:

$$\text{Max} \quad \sum_{i,\,p} v_{i,p}\, x_{i,p}$$

where $v_{i,p}$ denotes a monetary value of a bid that bidder p has placed for item i, and, $x_{i,p}$ denotes a decision variable having a value of 0 when said bid is not in a winning combination, and 1 when said bid is a winning combination.

16. (Currently amended) A method according to claim 14, further comprising:

specifying combinatorial bids by interpreting the condition ~~on winning~~.

17-18. (Canceled)

19. (Currently amended) A method according to claim 14, wherein the condition ~~on winning~~ is represented by a linear relationship between indicator variables on bids from the participant.

20. (Currently amended) A method of conducting an auction in an auction system in which plural items are offered for auction by a seller, and plural bidders place bids on said plural items, said method comprising:

establishing an auction system which is accessible via the Internet, and performs an auction for a set of items including an item and an other ~~another~~ item which is different than said item; ~~, and comprises a processor which generates~~

generating by using a processor, a web page including a user interface for entering a bid in said auction, said user interface displaying an area for entering a bid for said item and said other item, an area for entering a condition associated with a set of items including said item and said other item, and an area for editing said condition;

receiving a bid for said item and a condition associated with ~~on winning~~ said set of items ~~item~~ which are entered by a bidder by using said user interface;

displaying on said user interface a bid table for indicating that said bid is one of a selected bid and an unselected bid during a course of said auction; and

after said bidder has input said bid including said condition ~~on winning~~, formulating a winner determination problem including said condition ~~on winning~~ and a seller condition as an integer program, and solving said integer program to determine whether said bid is a selected bid;

receiving an edit to said condition which is entered by said bidder by using said user interface, and updating said bid table displayed on the user interface to indicate that said bid is one of a selected bid and an unselected bid based on said edited condition; and

upon terminating said auction, updating said bid table displayed on the user interface to indicate that said bid is one of a winning bid and a non-winning bid,

wherein said integer program is expressed by the following:

$$\text{Max} \quad \sum_{i,\,p} v_{i,p}\, x_{i,p}$$

where $v_{i,\,p}$ denotes a monetary value of a bid that bidder p has placed for item i, and, $x_{i,\,p}$ denotes a decision variable having a value of 0 when said bid is not in a winning combination, and 1 when said bid is a winning combination,

wherein said user interface displays a space for a bidder to identify plural bidder conditions comprising a budget condition that specifies a total amount that a bidder is willing to pay for an item, a precedence condition that indicates that bidder will win an item of plural items only if said bidder also wins another item of said plural items, an alternate precedence condition which indicates that a bidder will win an item only if said bidder wins all of the items in a precedence set, a quantity condition which specifies one of a maximum quantity and a minimum quantity of items that said bidder will win, and a general linear condition which indicates a coefficient for said plural items and an upper bound and lower bound on a sum of coefficients for said plural items, and

wherein said seller condition comprises one of a condition indicating a minimum total amount that seller will accept for plural items, a condition indicating a minimum

quantity of items in said plural items to be sold, and a precedence condition indicating that an item will be sold only if another item is sold.

21. (Canceled)

22. (New) The method of claim 1, wherein said set of items comprises plural sets of items including a first set of items and a second set of items which is different from said first set of items.

23. (New) The method of claim 22, wherein said condition comprises a plurality of conditions including a first condition and a second condition which is different from said first condition.

24. (New) The method of claim 23, wherein said first set of items is subject to a first condition and said second set of items is subject to a second condition which is different from said first condition.

25. (New) The method of claim 1, wherein said area for entering a condition comprises a plurality of areas for entering a plurality of conditions including:

an area for entering a budget condition that specifies that the bidder will win the item only if a total amount of winning bids for said set of items does not exceed a maximum value;

an area for entering a precedence condition that indicates that the bidder will win the item only if the bidder also wins the other item in the set of items;

an area for entering an alternate precedence condition which indicates that the bidder will win the item only if the bidder wins all of the items in the set of items;

an area for entering a maximum quantity condition which specifies that the bidder will win the item only if the bidder wins no more than a maximum quantity of items in the set of items;

an area for entering a minimum quantity condition which specifies that the bidder will win the item only if the bidder wins no less than a minimum quantity of items in the set of items; and

an area for entering a general linear condition which indicates that the bidder will win the item only if a sum of coefficients assigned by the bidder for the set of items is not greater than an upper bound and not less than a lower bound.